



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV - 5 2008

OFFICE OF
AIR AND RADIATION

Mr. Jim Hale
Retrofit Business Manager, NA
Johnson Matthey
Environmental Catalysts and Technologies
380 Lapp Road
Malvern, Pennsylvania 19355

Dear Mr. Hale:

The U.S. Environmental Protection Agency (EPA) has reviewed your request for full verification of the Johnson Matthey, Inc. (JM) Partial Continuously Regenerating Technology₂ (PCRT₂) system. Based on our evaluation of the verification application and corresponding Environmental Technology Verification (ETV) test data, EPA hereby fully verifies that this technology reduces emissions of certain criteria pollutants by the percentages described in the table below. This verification is for the purposes of EPA's National Clean Diesel Campaign. This full verification supersedes prior conditional verification dated June 4, 2007.

This technology combination is approved for use on the following categories of engines and/or vehicles provided all of the required operating criteria are met as described below:

All 4-cycle non-EGR highway, medium-heavy and heavy-heavy duty diesel engines including turbo-charged or naturally aspirated, mechanically or electronically injected, and originally manufactured from 1988 through 2003 model years except urban bus engines or engines that were originally certified with a diesel oxidation catalyst (DOC). This verification only applies to the PCRT₂ system that includes a DOC and a flow-through partial filter.

Technology	Fuel (sulfur content)	Model Years	Particulate Matter (PM) %	Carbon Monoxide (CO) %	Hydrocarbons (HC) %	Oxide of Nitrogen (NOx) %
PCRT ₂ System	≤ 15 ppm	1988-1993	50	68	92	n/a
		1994-2003	45			

The following operating criteria must be met in order for appropriately retrofitted engines to achieve the aforementioned emissions reductions:

1. The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
2. The engine must be operated with a diesel fuel that contains sulfur content of no more than 15 parts per million (ppm).
3. The engine exhaust temperature must be at least 240 degrees C for 40% of the duty cycle at the PCRT₂ inlet. As there may be variations from application to application, data-logging and a review of vehicle operating conditions is required prior to retrofitting a vehicle to ensure PCRT₂ compatibility.
4. Backpressure readings must be taken after initial installation of the PCRT₂ System and recorded on the Record of Installation card for warranty purposes. To assess the performance of the technology and to avoid engine damage backpressure readings must be performed every six months. Results must not exceed 75 inches H₂O (5.5 inches Hg). An alternative would be to install a backpressure monitoring system with a driver warning light to alert the operator if these specifications are exceeded.
5. The engine's exhaust must produce a NO_x/PM ratio of at least 20. JM will make an assessment of the suitability of candidate engines based upon the certification emission levels or emission test data.
6. Blending of lube oil with fuel is prohibited with this product.
7. Certain oil additives contain elements that can damage the PCRT₂ system and must be approved by JM prior to use.

Information on the PCRT₂ technology, percent reductions, applicable engines, and in-use testing program will be posted on the EPA's National Clean Diesel Campaign website (<http://www.epa.gov/cleandiesel>). As you know, JM will be responsible for completing the required in-use testing program and for submitting all in-use testing data to EPA.

Thank you for participating in EPA's National Clean Diesel Campaign. If you have any questions or comments, please contact Arman Tanman, of my staff, at (202) 343-9326.

Sincerely,



Jim Blubaugh, Manager
Innovative Strategies Group
Office of Transportation and Air Quality